P. O. Box 829
Carlsbad, New Mexico
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MINE INSPECTION REPORT
JACKPILE MINE
UNITED PUEBLO AGENCY
LAGUNA PUEBLO RESERVATION

by
James W. Hager
Mining Engineer

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
BRANCH OF MINING OPERATIONS
CONSERVATION DIVISION

On January 12, 1960, accompanied by H. B. Nickelson and R. T. Roeder, engineers of the Geological Survey, I examined the Jackpile mine on the Laguna Indian Reservation. The mine is operated by the Anaconda Company and is located 8½ miles north of Laguna, Valencia County, New Mexico. The mine is serviced by a spur of the Santa Fe railroad. Mr. J. P. Herndon was Mine Superintendent and Mr. Paul Balintine was Assistant Mine Superintendent. The last examination by this office was on August 27, 1959.

The lease originally covered 799.09 acres when issued May 7, 1952. By amendments made on September 9, 1954 and November 27, 1957, the lease was extended to cover a total of 3,679.09 acres. A new lease is contemplated to cover the undeveloped Paguate orebody as soon as mining plans have been formulated.

At present all production comes from open pit mining. Waste is stripped from the ore by benches of 40 foot vertical height and about 60 to 70 feet wide. No over hanging high walls were observed. The overburden is drilled by Portadrills and Joy rotary drills; holes are 6-3/4 and 7-7/8 inch diameter. The ore is drilled by Failing rotaries; holes are 4-3/4 inches in diameter. The hole spacing depends on the thickness of ore but averages about 8 feet. All blast holes are sampled and the samples tested radiometrically.

The overburden averages about 115 feet and varies from only a few feet in the southern portion of the pit to over 400 in

the northern portion. The stripping ratio is slightly over 10-1.

A complicated but efficient grade control system is employed at the operation. Development diamond drill holes are drilled on 200 foot centers with auxilary grids at 100 foot, 50 and even 25 feet where it is necessary to determine edges of the ore bodies. Holes are always drilled in the lowest level of the pit after the known ore is extracted to assure that no ore will be left in the pit. A substantial tonnage of ore has been found by this method in the erratic formation below the main ore zone.

The ore occurs in the Westwater sandstone, locally called the Jackpile sand, of the Morrison formation of Jurassic age. It occurs as irregular flat lying lenses of medium grained, sandstone ranging in color from yellowish gray to black depending on the amount of carbonaceous material contained.

Blasting is done with fertilizer-grade ammonium nitrate mixed with diesel oil at a ratio of 1 gallon to 80 pounds of ammonium nitrate. Where it is important to get a concentration of explosives as in the deeper holes in the waste, commercially prepared and packaged ammonium nitrate is used. Primers are of three sticks of 40% power and one detonater. Several primers are used in each hole. The explosive is detonated by 40-gr Prim-a-Cord.

The overburden has reached its maximum hight at the northern part of the pit and no further extention can economically be made. The over burden is approximately 400 feet high and the ore at this location is of submarginal charactor.

No changes have been made in ore handling since date of last examination. The mine produces about 3500 tons of milling ore per day and about 5,000 tons of low grade material which is stockpiled at the mine, about 35,000 tons of waste are removed daily. The mine is operated 3 shifts, six days a week. There were 296 men employed at the mine, 25 supervisors and 271 on days pay. Of the total personnel employed 238 were Indians.

No safety violations or violations of the terms of the lease were noted on date of examination.

J. W. Hager
Mining Engineer

Orig. to: Supt., United Pueblo, Albuquerque
cc: Comm., Office of Indian Affairs
: Chief, Branch of Mining Operations
: Bureau of Mines, Denver
: Files